BEFORE

THE PUBLIC SERVICE COMMISSION OF

SOUTH CAROLINA

DOCKET NO. 2014-246-E - ORDER NO. 2015-194

MARCH 20, 2015

IN RE: Petition of the Office of Regulatory Staff to Establish Generic Proceeding Pursuant to the Distributed Energy Resource Program Act, Act No. 236 of 2014, Ratification No. 241, Senate Bill No. 1189	)))))	ORDER ON NET METERING AND APPROVING SETTLEMENT AGREEMENT

I. INTRODUCTION

This matter comes before the Public Service Commission of South Carolina ("Commission") following the Petition filed by the Office of Regulatory Staff ("ORS") requesting that the Commission convene a generic proceeding pursuant to Section 58-40-20(F) (4) (Supp. 2014) of the Distributed Energy Resource Program Act ("the Act") for the purposes of implementing the requirements of Chapter 40, Net Metering. The procedure followed by the Commission is set forth in S.C. Code Ann. § 58-40-20, which requires a generic proceeding to allow the implementation of requirements of Chapter 40 with respect to the net energy metering rates, tariffs, charges, and credits of electrical utilities, specifically to establish the methodology to set any necessary charges and credits and the participation of all interested parties.

Petitions to Intervene were filed by the following parties: South Carolina Energy Users Committee ("SCEUC"); South Carolina Coastal Conservation League ("SCCCL"); Southern Alliance for Clean Energy ("SACE"); Solbridge Energy LLC; Sustainable

Energy Solutions, LLC; The Alliance for Solar Choice ("TASC"); The Sierra Club; South Carolina Solar Business Alliance, LLC ("SBA"); The Electric Cooperatives of South Carolina, Inc. and Central Electric Power Cooperative, Inc. (collectively, the "Cooperatives")[1]; Frank Knapp, Jr.; Nucor Steel – South Carolina ("Nucor"); Wal-Mart Stores East, LP, and Sam's East, Inc. ("Wal-Mart "). Electrical utilities Duke Energy Progress, Inc., Duke Energy Carolinas, LLC, (collectively "Duke") and South Carolina Electric & Gas Company ("SCE&G") (individually, "Utility" and collectively, the "Utilities") participated pursuant to Section 58-40-20(F)(4). SCEUC was represented by Scott Elliott, Esquire; SCCCL and SACE were represented by J. Blanding Holman, IV, Esquire, and Katie C. Ottenweller, Esquire; Solbridge Energy LLC and Sustainable Energy Solutions, LLC were represented by Richard L. Whitt, Esquire; TASC was represented by Thadeus B. Culley, Esquire, and Joseph M. McCulloch, Jr., Esquire; The Sierra Club was represented by Robert Guild, Esquire; SBA was represented by Bonnie Loomis, Esquire; the Electric Cooperatives of South Carolina were represented by Michael N. Couick, Esquire, Christopher R. Koon, Esquire, Charles L.A. Terreni, Esquire, and Frank R. Ellerbe, III, Esquire; Central Electric Power Cooperative was represented by John H. Tiencken, Jr., Esquire, and Paul J. Conway, Esquire; Frank Knapp, Jr. appeared *pro se*; Nucor was represented by Robert R. Smith, II, Esquire,

[1] The Cooperatives petitioned to intervene as interested parties. While the Cooperatives are not bound by the methodology established in this proceeding, the Act requires each of the state's distribution electric cooperatives to adopt net metering policies and programs that allow leasing of distributed generation equipment, and report its policy to the ORS by June 2, 2015. Section 7, Distributed Energy Resource Program Act, Act No. 236 of 2014. The Act also requires the electric cooperatives to "consider the general objectives of [the Act] and any methodology promulgated thereunder" in formulating their net metering policies. *Id*.

Garrett A. Stone, Esquire, and Michael K. Lavanga, Esquire; Wal-Mart was represented by Derrick Price Williamson, Esquire, and Stephanie U. Roberts, Esquire; Duke was represented by Charles Alex Castle, Esquire, Heather S. Smith, Esquire, and Bonnie D. Shealy, Esquire; and SCE&G was represented by K. Chad Burgess, Esquire, and Belton T. Zeigler, Esquire. The Petitions to Intervene were granted by the Commission. ORS, automatically a party pursuant to S.C. Code Ann. § 58-4-10(B) (Supp. 2014), was represented by Andrew M. Bateman, Esquire, and Shannon Bowyer Hudson, Esquire.

Commission Hearing Officer David Butler, Esquire, issued the procedural schedule on August 28, 2014, setting forth December 11, 2014, as the due date for direct testimony and January 13, 2015, as the due date for rebuttal testimony.

On December 11, 2014, ORS filed a Settlement Agreement ("Settlement Agreement") with the Commission on behalf of ORS, the Utilities, the Cooperatives, Frank Knapp, Jr., Nucor, SBA, SCCCL, SACE, Solbridge Energy LLC, Sustainable Energy Solutions, LLC, and TASC ("Settling Parties"). The Settlement Agreement is attached hereto as Order Exhibit 1 and is incorporated in and made part of this Order.[2] Along with the Settlement Agreement, ORS filed settlement testimony of Leigh C. Ford, ORS Electric Department Manager, and settlement testimony and exhibits of Kushal D. Patel, consultant for Energy + Environmental Economics, Inc. ("E3").[3] Also on December 11, 2014, the various parties filed testimony from the witnesses named below.

[2] Hearing Exhibit 1 consists of the Settlement Agreement.
[3] Hearing Exhibit 13 consists of Patel Exhibits KDP-A, B and C.

SCE&G filed the direct testimony and exhibits of W. Keller Kissam, President of Retail Operations for SCE&G; Joseph M. Lynch, Manager of Resource Planning for SCANA Services, Inc.; and Allen W. Rooks, Manager of Electric Pricing and Rate Administration at SCANA Services, Inc. Exhibits were included with the direct testimony of witnesses Kissam, Rooks and Lynch.[4]

Duke filed direct and settlement testimony of Jeffrey R. Bailey, Director, Rate Design and Analysis for Duke Energy and its affiliated utility operating companies; Emily O. Felt, Manager of Strategy and Policy in the Distributed Energy Resources group at Duke Energy; and Glen A. Snider, Director of Carolinas Resource Planning and Analytics. An exhibit was included with the testimony of witness Bailey.[5]

The Cooperatives filed the direct testimony of Floyd L. Keels, President and Chief Executive Officer of Santee Electric Cooperative, and Richard J. Macke, Vice President and head of the Economics, Rates, and Business Planning Department at Power System Engineering, Inc.

Wal-Mart filed direct testimony of Kenneth E. Baker, Senior Manager of Sustainable Regulation and Legislation.

TASC filed the direct testimony and exhibits of R. Thomas Beach, Principal Consultant of Crossborder Energy; James M. Van Nostrand, Associate Professor and Director of the Center for Energy and Sustainable Development at the West Virginia

[4] Hearing Exhibit 2 consists of Exhibit WKK-1 of W. Keller Kissam; Composite Hearing Exhibit 3 consists of Exhibit AWR-1 through AWR-2 of Allen Rooks; Hearing Exhibit 4 consists of Exhibit JML-1 of Joseph M. Lynch.
[5] Hearing Exhibit 6 consists of the Bailey Direct and Settlement Exhibit No. 1. of Jeffrey R. Bailey.

University College of Law; and Justin R. Barnes, Senior Research Analyst with EQ Research LLC.[6]

SCCCL and SACE filed the direct testimony of Tommy Vitolo, an Associate with Synapse Energy Economics. Exhibits were included with the direct testimony of witness Vitolo.[7] On December 12, 2014, SCCCL and SACE filed the direct testimony of John D. Wilson, Director of Research for SACE. Exhibits were included with the direct testimony of witness Wilson.[8] On December 12, 2014, the Cooperatives filed exhibits to the direct testimony of witness Keels.[9] Also, on December 12, 2014, the SBA filed joint settlement testimony of Paul Fleury, co-owner of Sustainable Energy Solutions, LLC, and Grant Reeves, Senior Vice President of The InterTech Group, Inc.

On December 23, 2014, SCCCL and SACE filed amended direct testimony and exhibits of Tommy Vitolo and John D. Wilson. Each witness' amended testimony contained one additional question and answer meant to clarify that to the extent information in either direct testimony conflicts with the Settlement Agreement, SCCCL and SACE filed those portions of the testimony for the Commission's consideration only if the Commission rejected the Settlement Agreement as proposed. On January 2, 2015, TASC filed amended direct testimony and exhibits of witnesses Beach, Van Nostrand, and Barnes. Each witness' amended testimony contained one additional question and answer meant to clarify that to the extent information in direct testimony conflicts with

[6] Hearing Exhibit 10 consists of the Direct Testimony Exhibit RTB-1 of R. Thomas Beach; Hearing Exhibit 11 consists of the Direct Testimony Exhibit JMV-1 of James M. Van Nostrand; and Hearing Exhibit 12 consists of the Direct Testimony Exhibit JRB-1 of Justin R. Barnes.
[7] Composite Hearing Exhibit 8 consists of Exhibit TJV-1 through 3 of Tommy Vitolo.
[8] Composite Hearing Exhibit 9 consists of Wilson Exhibit 1 through 2 of John D. Wilson.
[9] Composite Hearing Exhibit 7 consists of Testimony Exhibits A through B of Floyd L. Keels.

the Settlement Agreement, TASC filed those portions of the testimony for the Commission's consideration only if the Commission rejects the Settlement Agreement as proposed.

While all of the Settling Parties support the Settlement Agreement, many parties filed direct testimony asserting alternative positions, and the Utilities filed rebuttal testimony asserting their respective positions in the event that the Commission did not approve the Settlement Agreement. On January 13, 2015, Duke filed rebuttal testimony of Jeffrey R. Bailey and Glen A. Snider, and SCE&G filed rebuttal testimony of Joseph M. Lynch and Michael T. O'Sheasy, Vice President with Christensen Associates, Inc. An exhibit was included with the rebuttal testimony of SCE&G witness O'Sheasy.[10]

On January 30, 2015, Wal-Mart filed a verification of the direct testimony of Kenneth E. Baker. On February 2, 2015, SCCCL and SACE filed a verification of the amended direct testimony of John D. Wilson. TASC filed a verification of the amended direct testimony of R. Thomas Beach and James M. Van Nostrand on February 2 and 4, 2015, respectively. The verifications were required by the Commission pursuant to Commission Order Nos. 2015-89, 2015-90, and 2015-91 for those witnesses seeking to be excused from the generic proceeding hearing.

Lastly, prior to the hearing, the three non-settling parties communicated to the Commission and the Settling Parties that, although they are not signatories to the Settlement Agreement, they do not oppose its adoption by the Commission.

[10] Hearing Exhibit 5 consists of Exhibit MTO-1 of Michael T. O'Sheasy.

II. JURISDICTION OF THE COMMISSION

In accordance with S.C. Code Ann. § 58-40-20(F)(4) (Supp. 2014), the Commission "shall initiate a generic proceeding for purposes of implementing the requirements of this chapter with respect to the net energy metering rates, tariffs, charges, and credits of electrical utilities, specifically to establish the methodology to set necessary charges and credits as required under items (1) and (2)." Sections (F)(1) and (F)(2) state as follows:

> (F) Any and all costs prudently incurred pursuant to the provisions of this chapter by an electrical utility as approved by the commission and any and all commission approved benefits conferred by a customer-generator shall be recoverable by each entity respectively in the electrical utility's rates in accordance with these provisions:
>
> (1) The electrical utility's general rates, tariffs, and any additional monthly charges or credits, in addition to any other charges or credits authorized by law, to recover the costs and confer the benefits of net energy metering shall include such measures necessary to ensure that the electrical utility recovers its cost of providing electrical service to customer-generators and customers who are not customer-generators.
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> (2) Any charges or credits prescribed in item (1), and the terms and conditions under which they may be assessed shall be in accordance with a methodology established through the proceeding described in item (4). The methodology shall be supported by an analysis and calculation of the relative benefits and costs of customer generation to the electrical utility, the customer-generators, and those customers of the electrical utility that are not customer-generators.

Consistent with the requirements of S.C. Code Ann. § 58-40-20 (F)(4) (Supp. 2014), the Commission convened a generic proceeding to determine the reasonableness of the Settling Parties' methodology and whether acceptance of the Settlement Agreement is just, fair and in the public interest.

III. DISCUSSION OF THE HEARING

The Commission conducted a generic proceeding on this matter on February 3, 2015, in the hearing room of the Commission with the Honorable Nikiya "Nikki" Hall presiding. At the outset of the hearing, ORS counsel described the Settlement Agreement. The methodology proposed in the Settlement Agreement ("Methodology") is as follows:

Net Energy Metering ("NEM") Methodology

+/- Avoided Energy
+/- Energy Losses/Line Losses
+/- Avoided Capacity
+/- Ancillary Services
+/- Transmission and Distribution ("T&D") Capacity
+/- Avoided Criteria Pollutants
+/- Avoided CO_2 Emission Cost
+/- Fuel Hedge
+/- Utility Integration & Interconnection Costs
+/- Utility Administration Costs
+/- Environmental Costs
= Total Value of NEM Distributed Energy Resource

The following table details the components of the Methodology.

Methodology Component	Description	Calculation Methodology/Value
+/- Avoided Energy	Increase/reduction in variable costs to the Utility from conventional energy sources, i.e. fuel use and power plant operations, associated with the adoption of NEM.	Component is the marginal value of energy derived from production simulation runs per the Utility's most recent Integrated Resource Planning ("IRP") study and/or Public Utility Regulatory Policy Act ("PURPA") Avoided Cost formulation.
+/- Energy Losses/Line Losses	Increase/reduction of electricity losses by the Utility from the points of generation to the points of delivery associated with the adoption of NEM.	Component is the generation, transmission, and distribution loss factors from either the Utility's most recent cost of service study or its approved Tariffs. Average loss factors are more readily available, but marginal loss data is more appropriate and should be used when available.
+/- Avoided Capacity	Increase/reduction in the fixed costs to the Utility of building and maintaining new conventional generation resources associated with the adoption of NEM.	Component is the forecast of marginal capacity costs derived from the Utility's most recent IRP and/or PURPA Avoided Cost formulation. These capacity costs should be adjusted for the appropriate energy losses.

Methodology Component	Description	Calculation Methodology/Value
+/- Ancillary Services	Increase/reduction of the costs of services for the Utility such as operating reserves, voltage control, and frequency regulation needed for grid stability associated with the adoption of NEM.	Component includes the increase/decrease in the cost of each Utility's providing or procurement of services, whether services are based on variable load requirements and/or based on a fixed/static requirement, i.e. determined by an N-1 contingency. It also includes the cost of future NEM technologies like "smart inverters" if such technologies can provide services like VAR support, etc.
+/- T&D Capacity	Increase/reduction of costs to the Utility associated with expanding, replacing and/or upgrading transmission and/or distribution capacity associated with the adoption of NEM.	Marginal T&D distribution costs will need to be determined to expand, replace, and/or upgrade capacity on each Utility's system. Due to the nature of NEM generation, this analysis will be highly locational as some distribution feeders may or may not be aligned with the NEM generation profile although they may be more aligned with the transmission system profile/peak. These capacity costs should be adjusted for the appropriate energy losses.
+/- Avoided Criteria Pollutants	Increase/reduction of SOx, NOx, and PM10 emission costs to the Utility due to increase/reduction in production from the Utility's marginal generating resources associated with the adoption of NEM generation if not already included in the Avoided Energy component.	The costs of these criteria pollutants are most likely already accounted for in the Avoided Energy Component, but, if not, they should be accounted for separately. The Avoided Energy component must specify if these are included.
+/- Avoided CO_2 Emissions Cost	Increase/reduction of CO_2 emissions due to increase/reduction in production from each Utility's marginal generating resources associated with the adoption of NEM generation.	The cost of CO_2 emissions may be included in the Avoided Energy Component, but, if not, they should be accounted for separately. A zero monetary value will be used until state or federal laws or regulations result in an avoidable cost on Utility systems for these emissions.
+/- Fuel Hedge	Increase/reduction in administrative costs to the Utility of locking in future price of fuel associated with the adoption of NEM.	Component includes the increases/decreases in administrative costs of any Utility's current fuel hedging program as a result of NEM adoption and the cost or benefit associated with serving a portion of its load with a resource that has less volatility due to fuel costs than certain fossil fuels. This value does not include commodity gains or losses and may currently be zero.
+/- Utility Integration & Interconnection Costs	Increase/reduction of costs borne by each Utility to interconnect and integrate NEM.	Costs can be determined most easily by detailed studies and/or literature reviews that have examined the costs of integration and interconnection associated with the adoption of NEM. Appropriate levels of photovoltaic penetration increases in South Carolina should be included.

Methodology Component	Description	Calculation Methodology/Value
+/- Utility Administration Costs	Increase/reduction of costs borne by each Utility to administer NEM.	Component includes the incremental costs associated with net metering, such as hand billing of net metering customers and other administrative costs.
+/- Environmental Costs	Increase/reduction of environmental compliance and/or system costs to the Utility.	The environmental compliance and/or Utility system costs might be accounted for in the Avoided Energy component, but, if not, should be accounted for separately. The Avoided Energy component must specify if these are included. These environmental compliance and/ or Utility system costs must be quantifiable and not based on estimates.

The Settlement Agreement was accepted into the record as Hearing Exhibit 1. Prior to the hearing and without objection from the remaining parties, the Commission granted SCE&G, Duke, SBA and ORS permission to utilize panels for the presentation of witnesses.

SCE&G presented W. Keller Kissam as its first witness. Witness Kissam provided information confirming SCE&G's commitment to promoting distributed renewable generation in South Carolina and supporting the Commission's adoption of the Settlement Agreement. Witness Kissam discussed SCE&G's current solar resources, which include a partnership with Boeing that resulted in installation of 2.6 megawatts of solar laminate on top of their aircraft manufacturing facility, and other planned projects. Additionally, witness Kissam testified that planned projects add up to fifty (50) megawatts of utility-scale solar to its system. Regarding the Act, witness Kissam briefly discussed its three primary aspects: net energy metering ("NEM"), distributed energy resource ("DER") program, and solar leasing.

SCE&G's panel consisted of witnesses Lynch, Rooks and O'Sheasy. Witness Lynch discussed his support of the Methodology, the value that SCE&G receives when a customer operates a net metered DER and how SCE&G quantifies those benefits. Specifically, witness Lynch discussed each component that comprises the Methodology and how it is applied to meet the requirements of the Net Metering Statute. Further, witness Lynch discussed the components of value that SCE&G's electric system receives when customers use a net metered DER to serve all or part of their electricity needs. For instance, the witness testified about how to define and calculate avoided energy costs. Additionally, witness Lynch explained his view on why the Methodology is the correct approach to valuing DER generation and that according to the Methodology, SCE&G has calculated that a preliminary indicative value for a net metered DER on its system is about $49 per megawatt hour or 4.9 cents per kWh.

Witness Rooks provided an overview of SCE&G's support for the Settlement Agreement and the Methodology contained therein. According to witness Rooks, the Act provides for a 1:1 kilowatt hour ("kWh") crediting rate ("1:1 Rate") and requires a methodology to determine any necessary additional monthly charges and credits. Witness Rooks discussed the necessity of additional charges and credits in order to ensure that customer-generators pay the full cost of service that the utility provides them and that they receive full compensation for the benefits to the utility's system of the generation that they provide.

Witness O'Sheasy discussed his response to a number of issues raised by SCCCL and SACE witness Vitolo. Specifically, some of witness O'Sheasy's testimony discussed

witness Vitolo's approach to calculating avoided costs, quantifying carbon dioxide costs, and calculating recovery with respect to "exports only", which was not defined by Dr. Vitolo.

Duke presented Emily O. Felt as its first witness. Witness Felt provided information in support of the Settlement Agreement and the Methodology. According to witness Felt, Duke believes the Settlement Agreement represents a reasonable compromise among the Settling Parties, balancing the General Assembly's requirements to appropriately quantify the value of net metered DER generation with the goal of promoting development of DER. Additionally, witness Felt discussed the relative costs and benefits of NEM generation in South Carolina, whether certain categories were quantifiable, the basic manner in which the methodology will be executed, and the potential for future updates to the value of the Methodology components as addressed in the Settlement Agreement.

Duke's panel consisted of witnesses Bailey and Snider. Witness Bailey provided information that supports the implementation of the Methodology and identifies the relative benefits and costs of NEM in South Carolina and any revenue gaps caused by NEM participation in the state. Witness Bailey discussed the 1:1 Rate and the basic process by which an under- or over-recovery is determined with the Methodology. In witness Bailey's rebuttal testimony, he discussed the proposal of TASC witness Van Nostrand and CCL and SACE witness Vitolo that lost revenues include solely exported energy. According to witness Bailey, this practice would be inappropriate because it fails

to recognize the true loss of revenues and the addition of administrative costs borne by the utility.

Witness Snider's settlement testimony discussed the costs and benefits resulting from the implementation of DER on a utility system and supported the Methodology. Witness Snider specifically discussed the individual components that comprise the Methodology and how the Methodology possesses the flexibility necessary to react to an ever-changing marketplace and to accurately quantify the economic impact of NEM resources. In witness Snider's rebuttal testimony, he discussed why he disagrees with the recommendation that a generic solar photovoltaic generation profile should be used to calculate the avoided energy value for a solar DER, and why the same set of economic cost effectiveness tests used for utility-sponsored energy efficiency and demand response programs are not directly applicable to DER resources. Witness Snider also explained that he disagrees with the use of Effective Load Carrying Capability ("ELCC")[11] to determine the value of a DER because Duke's approach is consistent with the existing capacity valuation approach used in the established avoided cost calculation in South Carolina.

The Cooperatives' witness Keels discussed the importance of this Settlement Agreement as it relates to all electric cooperatives in South Carolina and the Cooperatives' support of the Settlement Agreement. In particular, witness Keels discussed the challenges that face the Cooperatives and their rural membership base.

[11] ELCC is one method to describe how well a particular resource is able to meet reliability conditions throughout the year.

Witness Keels explained that because the Cooperatives typically serve rural areas, their fixed costs are generally higher than the fixed costs of investor-owned utilities; however, the Cooperatives' rate structure is similar to investor-owned utilities in that variable, usage-based charges recover much of the fixed costs. The ability of certain members to reduce their usage charges through the installation and use of solar panels could, therefore, potentially require some cooperative members to subsidize the fixed costs necessary to serve members who install solar panels. Witness Keels explained that each of the state's twenty distribution cooperatives will have to adopt a net metering policy this year, and that the electric cooperatives will be able to employ the methodology established by this settlement in order to determine the true value of energy purchased from net metering consumers and transparently identify any subsidies which they may deem appropriate for members who net meter. As a result, witness Keels discussed the importance of implementing correct NEM policies such as those contained in the Settlement Agreement.

The Cooperatives' second witness, witness Macke, discussed the Cooperatives' support for paragraph III.8 of the Settlement Agreement and its Methodology. According to witness Macke, the Methodology achieves the requirements of the Act because it results in the establishment of quantifiable benefits and costs of DER that can be used in the establishment of tariffs, rates, charges, etc. that ensure that the utility recovers its costs of providing service to all customers. In discussing paragraph III.8 of the Settlement Agreement, witness Macke states that it is reasonable to include categories

that are not currently quantifiable as placeholders because this allows the Methodology to be dynamic and creates continuity over time.

The SBA presented a panel consisting of witnesses Fleury and Reeves. Witnesses Fleury and Reeves jointly testified that the Settlement Agreement positions South Carolina to prudently make gains in solar while protecting the interests of the rate-paying, consuming public. The witnesses stated that this Settlement Agreement opens South Carolina for solar business while cautiously and prudently defining and weighing customer cost.

Wal-Mart's witness Baker did not attend the hearing; however, witness Baker's testimony was verified and, without objection, was stipulated into the record. Witness Baker's testimony discussed the impact that Wal-Mart has on South Carolina's economy and Wal-Mart's interests as they relate to the Act, net metering and on-site generation. Witness Baker testified that, in the past, Wal-Mart has identified a level of uncertainty regarding the availability of net metering for customers with on-site generation over 100 kW, a potential lack of uniformity regarding the availability between Duke and SCE&G and the applicability of any related charges. Therefore, witness Baker seeks clarity regarding NEM, the need for a general level of uniformity among the Utilities, and the development of on-site customer generation without implementing unnecessary charges or costs.

SCCCL and SACE prefiled the testimony of two witnesses. Witness Wilson did not attend the hearing but, at the hearing, witness Wilson's testimony was stipulated into the record without objection. Witness Wilson's amended testimony discussed his

recommendation that the Commission direct the Utilities to utilize either an ELCC method or a capacity factor averaging method for determining the dependable capacity of variable renewable energy resources. According to witness Wilson, the industry has generally agreed that ELCC is the best practice and should be used in this situation. In the alternative, witness Wilson testified that the System Peak Hours method could be used to measure dependable capacity. Witness Wilson also discussed his estimates for the dependable capacity factors in South Carolina and why his estimates may be different than the Utilities' estimates.

SCCCL and SACE's second witness, witness Vitolo, discussed cost-benefit methodology and specific components that he believed the Commission should consider in evaluating NEM in South Carolina. Additionally, witness Vitolo discussed the high degree of correlation between individual solar panels in South Carolina, the modeling duration related to levelizing costs and benefits of the value of DERs, and the value of carbon emissions.

TASC prefiled testimony of three witnesses; however, witnesses Beach and Van Nostrand did not attend the hearing. At the hearing, witnesses Beach and Van Nostrand's testimonies were stipulated into the record without objection. Witness Beach's amended direct testimony discussed a benefit-cost methodology for valuing distributed generation resources in South Carolina that is consistent with the Act and informed by the emerging best practices in valuing these resources. Additionally, witness Beach discussed the net metering transaction and how DER differs from demand-side resources. Witness Beach recommended that the Commission adopt a benefit-cost methodology for NEM and DER

that has four key attributes: examines benefits and costs from the multiple perspectives of stakeholders, uses a long-term life-cycle analysis, focuses on NEM exports, and considers a comprehensive list of benefits and costs.

Witness Van Nostrand's amended direct testimony analyzes various provisions in the Act by discussing the "net electrical energy measurement" and the legal distinction between measuring the quantity of kWhs versus the valuation of those kWhs. Witness Van Nostrand testified that the statute provides for "true net metering," meaning the usage and production are offset over the billing period to arrive at a single number.

Witness Barnes, TASC's third witness, discussed a general overview of nationwide net metering policy and background on NEM policy in South Carolina. Witness Barnes discussed certain aspects of net metering in the national context such as net excess generation, potential cost-shifting and net metering trends. Witness Barnes also discussed the origin and evolution of net metering in South Carolina.

ORS's panel consisted of witnesses Patel and Ford. Witness Patel discussed his work as an outside consultant assisting ORS in developing a methodology to examine the costs and benefits of NEM in South Carolina. Witness Patel discussed E3's work in other states and net metering in the national context. According to witness Patel, the Methodology proposed in the Settlement Agreement is a good methodology because: it was developed through a collaborative, transparent, and stakeholder-driven process; it is dynamic and able to adapt over time to a variety of circumstances; it is relatively granular and contains quantifiable categories; and it can be applied to inform stakeholders of the costs and benefits associated with customer-sited generation over time. Additionally,

witness Patel testified that the Settlement Agreement is in line with what other jurisdictions in the United States have done in the context of valuing net metered resources.

Witness Ford provided testimony describing ORS's involvement in the proceeding, the net metering Methodology presented in the Settlement Agreement, and support for the Settlement Agreement in general. Witness Ford testified regarding the manner in which ORS served as a facilitator and resolved issues among the seventeen parties in the proceeding. Additionally, witness Ford testified to the specifics of the Settlement Agreement, including the 1:1 Rate provision and the ability of some customers to remain on a 1:1 Rate through December 31, 2025; the components of the methodology; the process by which under-recovered and over-recovered revenues are determined; and the timeline Utilities have to file new net metering tariffs.

IV. SETTLEMENT AGREEMENT

Through the testimony and exhibits presented to the Commission in this proceeding, the Settling Parties represent that all issues between them in this case have been settled in accordance with the terms and conditions contained in the Settlement Agreement, which they believe are just, fair, reasonable and in the public interest. The terms of the Settlement Agreement are summarized as follows:

(a) The Parties accept the Settlement Agreement as a whole and agree not to challenge any term or part for the duration of the Settlement Agreement, which expires January 1, 2021. However, Parties are not precluded from

participating in future proceedings to set and adopt policies which will be implemented after the expiration of the Settlement Agreement.

(b) The Parties have agreed as follows:

1. The 1:1 Rate shall be preserved for the term of the Settlement Agreement;
2. The Methodology, as defined in Settlement Agreement Attachment A, shall be used to compute the value of DER generation;
3. The difference between the value of DER generation, as computed using the Methodology, and the 1:1 Rate shall be treated as a DER program expense and collected accordingly through the fuel clause. This difference shall not be recovered through base rates.

(c) Within sixty (60) days of the adoption by the Commission of a final, unappealable order that approves and adopts the terms of the Settlement Agreement as the generic net metering methodology required by S.C. Code § 58-40-20(F)(4) of the Act, the Utilities will each file with the Commission separate applications for approval of the following:

1. Net Metering Tariffs: New net metering tariffs (the "Net Metering Tariffs") shall incorporate the terms of the Settlement Agreement as well as the terms defined in S.C. Code § 58-40-10, including allowable customer-generator systems sized up to 1,000 kilowatts ("kW"), net metering capacity cap, annual kWh credit reconciliation, and other terms and conditions required by the Act for net metering tariffs adopted under its provisions.
2. Net Metering Incentives: A Net Metering Incentive, funded through a DER Program ("DER NEM Incentive"), shall be applied

to qualifying net metering customers sufficient to make such customer-generators' bills equal to the bills they would have received if the power generated by their DER facilities were valued at the 1:1 Rate.

(d) The DER NEM Incentive will be applied to customer-generators receiving service under the Net Metering Tariffs prior to January 1, 2021. DER NEM Incentives shall be available to these customers through December 31, 2025, or until these customers elect to receive service under a different tariff, whichever occurs first.

(e) The Parties have convened and developed, according to a process managed by ORS and E3, a specific, standardized methodology for assessing costs and benefits of the net metering program. The Methodology includes all categories of potential costs or benefits to the Utility system that are capable of quantification or possible quantification in the future. Where there is currently a lack of capability to accurately quantify a particular category and/or a lack of cost or benefit to the Utility system, that category has been included in the Methodology as a placeholder. Placeholder categories will be updated and included in the calculation of costs and benefits of net metering if and when capabilities to reasonably quantify those values and quantifiable costs or benefits to the Utility system in such categories become available.

(f) As set forth below, the Utilities shall use the following to compute the net estimated under-recovered (lost revenue) or over-recovered revenue (net benefit) from net metering customers under existing rate structures, based on the Utility's cost of service study within its last general rate case. The formula used to apply the Methodology shall be as follows:

1. To determine the under-recovered or over-recovered revenue from the net metering customer:
    i. Compute what the actual or a representative customer's bill would have been under the applicable standard rate, without consideration of the production of the DER.
    ii. Subtract from that amount the actual or a representative customer's estimated bill under the applicable standard rates with consideration of the production of the DER.
    iii. Subtract from that amount the net benefits delivered by the DER as computed according to the Methodology and based upon the production of the DER.
    iv. If the final number is positive, the result is the "under-recovered revenue from the net metering customer."
    v. If the final number is negative, the result is the "over-recovered revenue from the net metering customer."
2. For under-recovered revenue, calculate the amount of any DER NEM Incentive to be applied to allow a net metering customer to

achieve the 1:1 Rate for gross production from the net metering facility.

3. For over-recovered revenue, calculate the credit, if any, to be applied to a net metering customer.

    i. No DER NEM Incentive shall be provided when the net metering customer receives a credit.

(g) The costs and benefits of net metering and the required amount of the DER NEM Incentive shall be computed and updated annually coincident in time with the Utility's filing under the fuel clause.

(h) Each Utility shall file reports with the Commission and copy ORS when the following participation levels are reached to identify and illustrate the costs unrecovered, if any, arising from customer adoption of net metered DER generation through December 31, 2020: (1) 0.5%; (2) 1.0%; (3) 1.5%; and (4) 2.0% of the Utility's previous five-year average South Carolina retail peak demand, as defined by the Act.

(i) The Parties acknowledge that the establishment of appropriate net metering rates is complicated by current Utility ratemaking methodologies which collect a substantial part of a Utility's fixed cost of providing service to customers through volumetric or kWh charges. The Utilities and any interested parties may participate in the study of these issues to be conducted by ORS as required by S.C. Code § 58-27-1050.

(j) The Utilities shall not propose any new separately enumerated charges or fees to be imposed specifically on customer-generators before the Settlement Agreement Expiration Date, and no standby service charges shall be imposed on customer-generators pursuant to the Utilities' Net Metering Tariffs before the Settlement Agreement Expiration Date.

(k) The Parties acknowledge that ORS has an on-going statutory mandate from the General Assembly of the State of South Carolina to protect the interest of the public in all matters related to the electric utility rates and terms and conditions of service. Nothing in the Settlement Agreement shall be construed to limit ORS in its fulfillment of this mandate.

V. CONCLUSION AND ORDER

Having heard the testimony of the witnesses and representations of counsel, and after careful review of the Settlement Agreement, the Commission finds that approval of the terms set forth in the Settlement Agreement is consistent with the requirement set forth pursuant to Section 58-40-20(F)(4) of the Act for the purposes of and implementing the requirements of Chapter 40. This is with respect to the net energy metering rates, tariffs, charges, and credits of electrical utilities, specifically to establish the methodology to set any necessary charges and credits as required. The Settlement Agreement's terms comport with the Act while assuring public confidence and minimizing abrupt changes in charges to customers. All parties have either signed the Settlement Agreement or indicated they do not oppose its adoption. Approval of the Settlement Agreement is in the public interest as a reasonable resolution of the issues in this case. Additionally, we

find that the methodology for determining under-recovered and over-recovered revenues is consistent with the statutory requirements of S.C. Code Ann. § 58-40-20 *et seq.* (Supp. 2014) and is just and reasonable. We further find that the Settlement Agreement's terms provide stabilization of the net metering rates, minimize fluctuations for the near future, and could incent economic development in South Carolina.

IT IS THEREFORE ORDERED THAT:

1. The Settlement Agreement attached hereto as Order Exhibit 1, and the pre-filed testimony of ORS's witnesses Kushal D. Patel and Leigh C. Ford; SCE&G's witnesses W. Keller Kissam, Allen W. Rooks, Joseph M. Lynch, and Michael T. O'Sheasy; Duke's witnesses Emily O. Felt, Jeffrey R. Bailey, and Glen A. Snider; the Cooperatives'witnesses Floyd L. Keels and Richard J. Macke; the SBA's witnesses Paul Fleury and Grant Reeves; Wal-Mart's witness Kenneth E. Baker; SCCCL and SACE's witnesses John D. Wilson and Thomas Vitolo; and TASC's witnesses R. Thomas Beach, James M. Van Nostrand, and Justin R. Barnes, along with their respective exhibits, as entered into evidence, are accepted into the record in the above-captioned case without objection. Lastly, the oral testimony of the above witnesses presented at the hearing on February 3, 2015, is also incorporated into the record of this case.

2. The Settlement Agreement is a reasonable resolution of the issues in this case and is in the public interest; and is therefore, approved.

3. Within sixty (60) days of the adoption by the Commission of a final, unappealable order that approves and adopts the terms of the Settlement Agreement as the generic net metering methodology required by S.C. Code § 58-40-20(F)(4) of the Act,

the Utilities will each file with the Commission separate applications for approval of the Net Metering Tariffs and Net Metering Incentives.

4. New Net Metering Tariffs shall incorporate the terms of the Settlement Agreement as well as the terms defined in S.C. Code § 58-40-10, including allowable customer-generator systems sized up to 1,000 kW, net metering capacity cap, annual kWh credit reconciliation, and other terms and conditions required by the Act for net metering tariffs adopted under its provisions.

5. A Net Metering Incentive, funded through a DER Program ("DER NEM Incentive"), shall be applied to qualifying net metering customers sufficient to make such customer-generators' bills equal to the bills they would have received if the power generated by their DER facilities were valued at the 1:1 Rate.

6. The DER NEM Incentive will be applied to customer-generators receiving service under appropriate Net Metering Tariffs prior to January 1, 2021. DER NEM Incentives shall be available to these customers through December 31, 2025, or until these customers elect to receive service under a different tariff, whichever occurs first.

7. The standardized methodology is reflected in Settlement Agreement Attachment A. The Methodology includes all categories of potential costs or benefits to the Utility system that are capable of quantification or possible quantification in the future.

8. The Settling Parties shall abide by all terms of the Settlement Agreement and agree not to challenge any term or part for the duration of this Settlement Agreement, which expires January 1, 2021.

9. The Utilities shall use the methodology as set forth in the Settlement Agreement to compute the net estimated under-recovered (lost revenue) or over-recovered revenue (net benefit) from net metering customers under existing rate structures, based on the Utility's cost of service study within its last general rate case.

10. The costs and benefits of net metering and the required amount of the DER NEM Incentive shall be computed and updated annually coincident in time with the Utility's filing under the fuel clause.

11. The Utilities shall not propose any new separately enumerated charges or fees to be imposed specifically on customer-generators before the Settlement Agreement Expiration Date, and no standby service charges shall be imposed on customer-generators pursuant to the Utilities' Net Metering Tariffs before the Settlement Agreement Expiration Date.

12. ORS has an on-going statutory mandate from the General Assembly of the State of South Carolina to protect the interest of the public in all matters related to the electric utility rates and terms and conditions of service. Nothing in the Settlement Agreement shall be construed to limit ORS in its fulfillment of this mandate.

13. This Order shall remain in full force and effect until further Order of the Commission.

BY ORDER OF THE COMMISSION:

Nikiya Hall, Chairman

ATTEST:

Swain E. Whitfield, Vice Chairman

(SEAL)

I. Parties to this Settlement Agreement

The parties to this Settlement Agreement (individually, the "Party" or collectively, the "Parties") are listed on the signature pages that follow. The following Parties may be referenced hereafter as follows: South Carolina Office of Regulatory Staff ("ORS"); Duke Energy Carolinas, LLC, Duke Energy Progress, Inc., South Carolina Electric & Gas Company (individually, the "Utility" and collectively, the "Utilities"); Central Electric Power Cooperative, Inc. and The Electric Cooperatives of South Carolina, Inc. (collectively, the "Coops"); South Carolina Coastal Conservation League, the Southern Alliance for Clean Energy, the South Carolina Solar Business Alliance, LLC, Sustainable Energy Solutions, LLC, Solbridge Energy, LLC, The Alliance for Solar Choice, and the Sierra Club (collectively, the "Solar Parties").

II. Introduction and Preamble

1. The Parties believe that this Settlement Agreement is consistent with both the spirit and the letter of Act 236 ("the Act").

2. The Parties acknowledge and agree that this Settlement Agreement is a product of negotiations and includes compromises made in order to reach a comprehensive settlement that all Parties can support. The Parties accept this Settlement Agreement as a whole and agree not to challenge any term or part for the duration of this Settlement Agreement, which expires January 1, 2021. However, Parties are not precluded from participating in future proceedings to set and adopt policies which will be implemented after the expiration of this Settlement Agreement. If any term or part of this Settlement Agreement is not adopted, a Party reserves the right to withdraw from the Settlement Agreement pursuant to the steps in Section IV.2.

3. The Solar Parties take the position (a) that due to environmental and other factors, if all inputs are fully quantified, the true value of solar would be such that each kilowatt hour ("kWh") of energy generated by a solar customer-generator, and intended primarily to offset part or all of the customer-generator's own electrical use, would be at least as valuable, for ratemaking purposes, as a kWh of power supplied to that customer from the Utility grid ("1:1 Rate"), and (b) that no charges specific to solar customer-generators should be levied.

4. The Solar Parties, however, acknowledge that quantifying the value of certain benefits of solar power would be difficult and contentious at this time. In the interest of settlement, the Solar Parties are willing to agree to forego quantifying the value of certain benefits of solar power so long as the 1:1 Rate can be achieved.

5. The ORS, Utilities, and Coops take the position (a) that S.C. Code §§ 58-40-10, et seq., ("the Net Metering Statute") requires net metering rates to be set based on the net cost to serve customer-generators; (b) that it would constitute a subsidy to Distributed Energy Resource ("DER") customers to value DER generation at a level higher than is indicated by the benefits quantifiable under the known and measurable standard for ascertaining costs in a ratemaking context, and (c) that by law any subsidy for DER generation should be captured in the Utility's DER Program ("DER Program") as a DER expense to be measured and recovered subject to the cost caps and other limitations that apply under S.C. Code § 58-39-110.

6. The ORS, Utilities, and Coops, however, acknowledge that those provisions of the Act were intended and designed to incent the development of DER such as solar customer-generation, in South Carolina. In the interest of settlement, the Utilities are willing to agree to incent net metered DER

generation to achieve the 1:1 Rate during the term of this Settlement Agreement and to recover such incentive costs from customers as a component of the Utilities' respective DER Programs, subject to the limitations of South Carolina law.

7. As a practical means to bridge the differences between the Parties in their positions in this proceeding and without any Party waiving or abandoning its positions related to the proper interpretation or application of the Net Metering Statute or any other matter set forth in this proceeding, the Parties have agreed to resolve the matters at issue in this proceeding by agreeing as follows:

a. The 1:1 Rate shall be preserved for the term of this Settlement Agreement as set forth below;
b. The ORS Methodology, as defined below, shall be used to compute the value of DER generation;
c. The difference between the value of DER generation, as computed using the ORS Methodology, and the 1:1 Rate shall be treated as a DER program expense and collected accordingly through the fuel clause. This difference shall not be recovered through base rates;
d. The other terms of this Settlement Agreement, as set forth below, detail how this arrangement will be carried out.

III. Elements of Settlement Proposal

1. Within 60 days of the effective date of this Settlement Agreement, the Utilities will each file with the Public Service Commission of South Carolina ("Commission") applications for the approval of the initial DER Program consistent with the terms of this Settlement Agreement and the terms and conditions of the Act. Utility DER Programs will include provisions for incentives to residential and small commercial customers and will make new tariffs, amendments to existing tariffs, and/or programs available to customer-generators with production of less than 20 kilowatt ("kW") ("Residential/Small Commercial"). DER Programs will include the following provisions:

a. The Utilities shall propose to make available DER incentives available to Residential/Small Commercial customer-generators with production of less than 20 kW ("Residential/Small Commercial DER Incentives") that provide these customer-generators with an investment incentive (i.e., an up-front incentive or rebate) and/or a fixed, production-based incentive payment. These incentives shall provide price-certainty to the customer-generator over a defined term.
b. In aggregate and over the DER planning horizon, the proposed Residential/Small Commercial DER Incentives shall be reasonably sufficient to enable the Utilities to meet the Residential/Small Commercial customer-generator adoption targets enumerated in S.C. Code § 58-39-130 (C)(2).
c. The Utilities shall propose to make Residential/Small Commercial DER Incentives available to all qualifying customer-generators on a non-discriminatory basis subject to the terms and provisions of general law, including the Act, and any limitations contained therein, up to a cumulative capacity no less than 0.25% of the Utility's previous five-year average South Carolina retail peak demand, as defined by the Act.

d. The Utilities shall propose to make Residential/Small Commercial DER Incentives available retroactively to customer-generators who interconnect between January 1, 2015, and the date on which the Commission approves each Utility's DER application.
e. To be eligible for the Residential/Small Commercial DER Incentive, the customer-generator must agree to the installation of metering equipment, as specified by the Utility, sufficient to read the production of the facility.
f. The Utilities shall include in their DER applications a provision that allows customer-generators the option, at the expiration of the term of a particular DER Incentive, to request and receive service under any available schedule or tariff for which they qualify.
g. Nothing herein is intended to obviate the Utilities' statutory obligation as enumerated in S.C. Code § 58-39-130 (C)(2)(b) to provide incentives to customers to purchase or lease renewable energy facilities up to 1,000 kW.
h. The rate and tariff structure under which Residential/Small Commercial DER Incentives are to be provided shall be determined in the proceedings to consider the DER Program filings of the Utilities.

2. Within 60 days of the adoption by the Commission of a final, unappealable order that approves and adopts the terms of this Settlement Agreement as the generic net metering methodology required by S.C. Code § 58-40-20(F)(4) of the Act, the Utilities will each file with the Commission separate applications for approval of the following:

a. **Net Metering Tariffs:** New net metering tariffs (the "Net Metering Tariffs") shall incorporate the terms of this Settlement Agreement as well as the terms defined in S.C. Code § 58-40-10, including allowable customer-generator system size up to 1,000 kW, net metering capacity cap, annual kWh credit reconciliation, and other terms and conditions required by the Act for net metering tariffs adopted under its provisions. Settlement Agreement Attachment B is illustrative of the Net Metering Tariffs and the required tariff components.
b. **Net Metering Incentives:** A Net Metering Incentive, funded through a DER Program ("DER NEM Incentive"), shall be applied to qualifying net metering customers sufficient to make such customer-generators' bills equal to the bills they would have received if the power generated by their DER facilities were valued at the 1:1 Rate.
    i. The DER NEM Incentive will be applied to customer-generators receiving service under the Net Metering Tariffs prior to January 1, 2021. DER NEM Incentives shall be available to these customers through December 31, 2025, or until these customers elect to receive service under a different tariff, whichever occurs first.
    ii. Net Metering Tariffs shall reference any Commission order(s) approving the terms of this Settlement Agreement which addresses the calculation of DER NEM Incentives. DER NEM Incentives will not be separately stated on each net metering customer's bill. All DER NEM Incentives shall be treated as Incremental Costs as defined in S.C. Code § 58-39-140.
    iii. Any DER Program must conform to the terms of this Settlement Agreement to trigger the requirement under this Settlement Agreement that the Utilities implement its Net Metering Tariff and DER Program. The Utilities shall propose

and seek in good faith to adopt DER Programs that provide DER NEM Incentives for net metering customers representing up to 2% of the Utility's five-year average South Carolina retail peak demand, which is the statutory cap on net metering customers under the Act, or until the expiration of this Settlement Agreement, whichever occurs first.

3. The net metering and DER program applications will be considered in separate, Utility-specific dockets before the Commission. All issues related to net metering rates and DER programs not addressed in this Settlement Agreement will be addressed in these Utility-specific proceedings, as appropriate. All interested parties shall have the right to fully participate in these proceedings. Utility cost recovery from customers related to net metering and DER programs shall be reviewed and determined in each Utility's fuel cost proceeding.
4. All Parties will support the terms of this Settlement Agreement and will support the adoption by the Utilities and Commission of programs, tariffs, orders and other rulings consistent with the terms of this Settlement Agreement and the Act. The Parties will take no action or advocate any position inconsistent with this commitment.
5. If the Utilities fail to comply with their obligations under Section III.2 above, the other Parties to this Settlement Agreement may seek a rule to show cause or other order of the Commission compelling the Utilities to take the action required or ordering other relief necessary or appropriate in the circumstances.
6. If any of the Parties to this Settlement Agreement other than a Utility fail to comply with their obligations under Section III.4 above, then the Utility shall notice the Parties of their intent to treat this Settlement Agreement as null and void and forego, withdraw, terminate or seek to cancel any applications, programs, tariffs, filings, orders or other proceedings undertaken in reliance on this Settlement Agreement. Within five (5) days of receiving notice of the Utility's intent, the Parties may petition the Commission for relief.
7. This Settlement Agreement shall expire on January 1, 2021 (the "Settlement Expiration Date"). Subject to the regulatory authority of the Commission and ORS, the Utilities will adopt Net Metering Tariffs that are consistent with the terms of this Settlement Agreement and will make them available to customers on a first-come, first-served basis until the Settlement Expiration Date, and subject to the caps on DER program expenses contained in S.C. Code § 58-39-150 of the Act.
8. The Parties have convened and developed, according to a process managed by ORS and its consultant Energy + Environmental Economics ("E3"), a specific, standardized methodology for assessing costs and benefits of the net metering program. The standardized methodology is reflected in Settlement Agreement Attachment A (the "Methodology"). The Methodology includes all categories of potential costs or benefits to the Utility system that are capable of quantification or possible quantification in the future. Where there is currently a lack of capability to accurately quantify a particular category and/or a lack of cost or benefit to the Utility system, that category has been included in the Methodology as a placeholder. (For example, Avoided CO_2 Emission Cost is included as a placeholder. A zero monetary value will be used until state or federal laws or regulations result in an avoidable cost on Utility systems for these emissions.) Placeholder categories will be updated and included in the calculation of costs and benefits of net metering if and when capabilities to reasonably

quantify those values and quantifiable costs or benefits to the Utility system in such categories become available.

9. As set forth below, the Utilities shall use the following methodology to compute the net estimated under-recovered (lost revenue) or over-recovered revenue (net benefit) from net metering customers under existing rate structures, based on the Utility's cost of service study within its last general rate case. The formula used to apply the Methodology shall be as follows:
   a. To determine the under-recovered or over-recovered revenue from the net metering customer:
      i. Compute what the actual or a representative customer's bill would have been under the applicable standard rate, without consideration of the production of the DER.
      ii. Subtract from that amount the actual or a representative customer's estimated bill under the applicable standard rates with consideration of the production of the DER.
      iii. Subtract from that amount the net benefits delivered by the DER as computed according to the Methodology and based upon the production of the DER.
      iv. If the final number is positive, the result is the "under-recovered revenue from the net metering customer."
      v. If the final number is negative, the result is the "over-recovered revenue from the net metering customer."
   b. For under-recovered revenue, calculate the amount of any DER NEM Incentive to be applied to allow a net metering customer to achieve the 1:1 Rate for gross production from the net metering facility.
   c. For over-recovered revenue, calculate the credit, if any, to be applied to a net metering customer.
      i. No DER NEM Incentive shall be provided when the net metering customer receives a credit.

10. The Utilities shall use actual customer-generator energy production data to the maximum extent available to calculate the costs and benefits of net metering on their system using the Methodology. In the absence of actual customer metered production data from a customer-generator's DER, the Utilities shall be allowed to estimate DER energy production for purposes of implementing the Methodology, consistent with best practices relating to such estimation and modeling.

11. The costs and benefits of net metering and the required amount of the DER NEM Incentive shall be computed and updated annually coincident in time with the Utility's filing under the fuel clause.

12. Each Utility shall file reports with the Commission and copy ORS when the following participation levels are reached to identify and illustrate the costs unrecovered, if any, arising from customer adoption of net metered DER generation through December 31, 2020: (1) 0.5%; (2) 1.0%; (3) 1.5%; and (4) 2.0% of the Utility's previous five-year average South Carolina retail peak demand, as defined by the Act.

13. The Parties acknowledge that the establishment of appropriate net metering rates is complicated by current Utility ratemaking methodologies which collect a substantial part of a

Utility's fixed cost of providing service to customers through volumetric or kWh charges. The Utilities and any interested parties may participate in the study of these issues to be conducted by ORS as required by S.C. Code § 58-27-1050.

14. Each Utility shall monitor and track ongoing unrecovered DER costs or unpaid benefits associated with the net metering program after the Settlement Agreement Expiration Date. The Utilities shall not propose any new separately enumerated charges or fees to be imposed specifically on customer-generators before the Settlement Agreement Expiration Date, and no standby service charges shall be imposed on customer-generators pursuant to the Utilities' Net Metering Tariffs before the Settlement Agreement Expiration Date. A Utility is not precluded, however, from seeking a change in general rates that apply in an identical manner to customer-generators and non-participating customers prior to reaching the 2% participation cap or the Settlement Expiration Date. If a general rate change is sought prior to the Settlement Expiration Date, the general rate change shall not include DER Program costs.

15. A customer-generator taking service under any net metering rates resulting from this Settlement Agreement shall have the right to remain on that rate, according to the terms and conditions specified in this Settlement Agreement through December 31, 2025, including protection against any new separately enumerated charges or fees that would only apply to DER customer-generators. The right to remain on a Net Metering Tariff shall be assignable by the customer-generator to subsequent owners of the premises to which the electrical generating system is connected and providing electrical service. The Utilities agree to file applications in a specific docket with the Commission for new net metering tariffs to replace the Net Metering Tariffs based on this Settlement Agreement no later than January 31, 2020; all interested parties shall have the right to fully participate in these proceedings.

IV. Miscellaneous

1. The Parties acknowledge that ORS has an on-going statutory mandate from the General Assembly of the State of South Carolina to protect the interest of the public in all matters related to the electric utility rates and terms and conditions of service. Nothing in this Settlement Agreement shall be construed to limit ORS in its fulfillment of this mandate.

2. This written Settlement Agreement contains the complete agreement of the Parties. The Parties agree that signing this Settlement Agreement does not constrain, inhibit or impair their arguments or positions in future proceedings. If the Commission declines to approve the agreement in its entirety, then any Party desiring to do so may withdraw from the agreement without penalty, within three (3) days of receiving notice of the decision, by providing written notice of withdrawal via electronic mail to all parties in that time period.

3. The Parties agree that the terms of this Settlement Agreement shall have no precedential value and shall not be cited in legal or regulatory proceedings except to enforce the terms of this Settlement Agreement.

4. This Settlement Agreement does not limit the rights of the signatories with respect to their ability to participate in a proceeding wherein the Utilities propose to populate the Methodology with Utility-specific data and information, or their ability to participate in

Commission review of Utility DER program offerings and proposals except as specified herein.

5. This Settlement Agreement is binding on the Parties only. It creates no rights in third parties nor are there third party beneficiaries to it. Only Parties who are signatories may make any claim under this Settlement Agreement.

6. The Parties agree to stipulate into the record before the Commission this Settlement Agreement. The Parties agree to stipulate into the record before the Commission the pre-filed testimony and exhibits of each Parties' witness(es) without objection, change, amendment or cross-examination with the exception of changes comparable to that which would be presented via an errata sheet or through a witness noting a correction. The Parties, however, reserve the right to engage in redirect examination of witnesses as necessary to respond to issues raised during the examination of their respective witnesses, if any, by the Commission or any non-settling party or by subsequently filed testimony.

7. The Parties agree this Settlement Agreement is reasonable, in the public interest, and in accordance with law and regulatory policy.

8. Further, ORS is charged with the duty to represent the public interest of South Carolina pursuant to S.C. Code § 58-4-10(B) (Supp. 2013). S.C. Code § 58-4-10(B)(l) through (3) reads in part as follows:

> "…'public interest' means a balancing of the following:
>
> (1) Concerns of the using and consuming public with respect to public utility services, regardless of the class of customer;
> (2) Economic development and job attraction and retention in South Carolina; and
> (3) Preservation of the financial integrity of the State's public utilities and continued investment in and maintenance of utility facilities so as to provide reliable and high quality utility services."

9. This Settlement Agreement shall be effective upon execution of the Parties and shall be interpreted according to South Carolina law.

10. This Settlement Agreement shall bind and inure to the benefit of each of the signatories hereto and their representatives, predecessors, successors, assigns, agents, shareholders, officers, directors (in their individual and representative capacities), subsidiaries, affiliates, parent corporations, if any, joint ventures, heirs, executors, administrators, trustees, and attorneys.

11. The above terms and conditions fully represent the agreement of the Parties hereto. Therefore, each Party acknowledges its consent and agreement to this Settlement Agreement by authorizing its counsel to affix his or her signature to this document where indicated below. Counsel's signature represents his or her representation that his or her client has authorized the execution of the Settlement Agreement. Facsimile signatures and e-mail signatures shall be as effective as original signatures to bind each Party. This document may be signed in counterparts, with the various signature pages combined with the body of the document constituting an original and provable copy of this Settlement Agreement.

In witness whereof see our signatures below:

[SIGNATURE PAGES TO FOLLOW]

WE AGREE:

Representing and binding the South Carolina Office of Regulatory Staff

Shannon B. Hudson

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WE AGREE:

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WE AGREE:

Representing and binding The Sierra Club

NOT A PARTY TO THE SETTLEMENT

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WE AGREE:

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WE AGREE:

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WE AGREE:

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WE AGREE:

Representing and binding Central Electric Power Cooperative, Inc.

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I AGREE:

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WE AGREE:

Representing and binding Wal-Mart Stores East, LP and Sam's East, Incorporated

NOT A PARTY TO THE SETTLEMENT

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WE AGREE:

Representing and binding South Carolina Energy Users Committee

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Settlement Agreement Attachment A

Net Energy Metering ("NEM") Methodology

+/- Avoided Energy
+/- Energy Losses/Line Losses
+/- Avoided Capacity
+/- Ancillary Services
+/- Transmission and Distribution ("T&D") Capacity
+/- Avoided Criteria Pollutants
+/- Avoided CO_2 Emission Cost
+/- Fuel Hedge
+/- Utility Integration & Interconnection Costs
+/- Utility Administration Costs
+/- Environmental Costs
= **Total Value of NEM Distributed Energy Resource**

The following table details the components of the Methodology.

Methodology Component	Description	Calculation Methodology/Value
+/- Avoided Energy	Increase/reduction in variable costs to the Utility from conventional energy sources, i.e. fuel use and power plant operations, associated with the adoption of NEM.	Component is the marginal value of energy derived from production simulation runs per the Utility's most recent Integrated Resource Planning ("IRP") study and/or Public Utility Regulatory Policy Act ("PURPA") Avoided Cost formulation.
+/- Energy Losses/Line Losses	Increase/reduction of electricity losses by the Utility from the points of generation to the points of delivery associated with the adoption of NEM.	Component is the generation, transmission, and distribution loss factors from either the Utility's most recent cost of service study or its approved Tariffs. Average loss factors are more readily available, but marginal loss data is more appropriate and should be used when available.
+/- Avoided Capacity	Increase/reduction in the fixed costs to the Utility of building and maintaining new conventional generation resources associated with the adoption of NEM.	Component is the forecast of marginal capacity costs derived from the Utility's most recent IRP and/or PURPA Avoided Cost formulation. These capacity costs should be adjusted for the appropriate energy losses.
+/- Ancillary Services	Increase/reduction of the costs of services for the Utility such as operating reserves, voltage control, and frequency regulation needed for grid stability associated with the adoption of NEM.	Component includes the increase/decrease in the cost of each Utility's providing or procurement of services, whether services are based on variable load requirements and/or based on a fixed/static requirement, i.e. determined by an N-1 contingency. It also includes the cost of future NEM technologies like "smart inverters" if such technologies can provide services like VAR support, etc.

Settlement Agreement Attachment A

Methodology Component	Description	Calculation Methodology/Value
+/- T&D Capacity	Increase/reduction of costs to the Utility associated with expanding, replacing and/or upgrading transmission and/or distribution capacity associated with the adoption of NEM.	Marginal T&D distribution costs will need to be determined to expand, replace, and/or upgrade capacity on each Utility's system. Due to the nature of NEM generation, this analysis will be highly locational as some distribution feeders may or may not be aligned with the NEM generation profile although they may be more aligned with the transmission system profile/peak. These capacity costs should be adjusted for the appropriate energy losses.
+/- Avoided Criteria Pollutants	Increase/reduction of SOx, NOx, and PM10 emission costs to the Utility due to increase/reduction in production from the Utility's marginal generating resources associated with the adoption of NEM generation if not already included in the Avoided Energy component.	The costs of these criteria pollutants are most likely already accounted for in the Avoided Energy Component, but, if not, they should be accounted for separately. The Avoided Energy component must specify if these are included.
+/- Avoided CO_2 Emissions Cost	Increase/reduction of CO_2 emissions due to increase/reduction in production from each Utility's marginal generating resources associated with the adoption of NEM generation.	The cost of CO_2 emissions may be included in the Avoided Energy Component, but, if not, they should be accounted for separately. A zero monetary value will be used until state or federal laws or regulations result in an avoidable cost on Utility systems for these emissions.
+/- Fuel Hedge	Increase/reduction in administrative costs to the Utility of locking in future price of fuel associated with the adoption of NEM.	Component includes the increases/decreases in administrative costs of any Utility's current fuel hedging program as a result of NEM adoption and the cost or benefit associated with serving a portion of its load with a resource that has less volatility due to fuel costs than certain fossil fuels. This value does not include commodity gains or losses and may currently be zero.
+/- Utility Integration & Interconnection Costs	Increase/reduction of costs borne by each Utility to interconnect and integrate NEM.	Costs can be determined most easily by detailed studies and/or literature reviews that have examined the costs of integration and interconnection associated with the adoption of NEM. Appropriate levels of photovoltaic penetration increases in South Carolina should be included.
+/- Utility Administration Costs	Increase/reduction of costs borne by each Utility to administer NEM.	Component includes the incremental costs associated with net metering, such as hand billing of net metering customers and other administrative costs.
+/- Environmental Costs	Increase/reduction of environmental compliance and/or system costs to the Utility.	The environmental compliance and/or Utility system costs might be accounted for in the Avoided Energy component, but, if not, should be accounted for separately. The Avoided Energy component must specify if these are included. These environmental compliance and/ or Utility system costs must be quantifiable and not based on estimates.

Settlement Agreement Attachment B

Example of Net Energy Metering Generic Tariff Components

The standard Net Energy Metering ("NEM") tariff will contain the following components:

1. Availability provisions;
2. General eligibility and technical service-related provisions;
3. Monthly rate provisions relating to administrative charges and/or excess energy credit calculations;
4. Terms;

Customers electing service under (Tariff Name) or after (Effective Date of New Tariff) are eligible to remain on (Tariff Name) until December 31, 2025, or until such time the customer elects to terminate service under (Tariff Name), whichever occurs first. The rates set forth here are subject to Commission Order No. ___, in Docket No. 2014-246-E entered under the terms of S.C. Code § 58-40-20(F)(4). Eligibility for this rate will terminate as set forth in that Order. The value of distributed energy resource generation shall be computed using the methodology contained in Commission Order No. ____, in Docket No. 2014-246-E and updated annually. The value for (Year) is $____ per kilowatt hour ("kWh").

If a customer-generator's energy consumption exceeds the electricity provided by the customer-generator during a monthly billing period, the customer-generator shall be billed in kWh for the net electricity supplied by the Utility.

If a customer-generator's energy generation exceeds the electricity provided by the Utility during a monthly billing period, the customer-generator shall be credited for the excess kWh generated during that billing period.

Excess energy not used in the current billing month to reduce billed kWh usage shall be accumulated and used to reduce usage in future months. Any accumulated excess energy not used to reduce billed kWh usage shall be paid to the customer-generator each (Date of Zeroing Out) at the Utility's avoided cost for qualified facilities, zeroing-out the customer-generator's account of net excess kWh credits.

Service on (Tariff Name) will be closed to new participants as of January 1, 2021, or after statutory caps described in S.C. Code § 58-39-130 have been reached, whichever occurs first.

Customers who elect NEM service after January 1, 2021, will receive service in accordance with the NEM tariff in effect the time at which the customer requests NEM service.

5. **Language specifying that the customer is responsible for the applicable customer charge/basic facilities charge and any applicable demand charges or extra facilities charges associated with standard rate (non-NEM), etc.;**

6. **Metering requirement provisions;**

7. **Safety, interconnection and inspection requirements;**

8. **Power factor provisions;**

9. **Contract period provisions;**

10. **Any other standard tariff language, as required.**